• *Balázs Muraközy–Pál Valentiny* •

ALTERNATIVES TO STATE REGULATION: SELF- AND CO-REGULATION*

In this study a brief overview is provided of the alternatives to direct governmental regulation of imperfectly competitive markets and of the evolution of the use of self-regulation in the past decades. We take into account the arguments in favour of alternative regulatory forms and compare these with their possible shortcomings. We show how the divergent features of different legal origins influence the framework of alternative regulation, including that of self-regulation. Because of the diversity of markets affected – at present or perhaps in the future – by self-regulation (from food industry through environment and lawyer services to internet, media and network services), we provide a detailed review of the literature dealing with the theoretical models of self-regulation, and attempt to categorise the various types of regulations according to their actors, origin of licences as well as type and degree of regulations.

INTRODUCTION

The past decade witnessed an upsurge of interest in the alternatives of governmental regulation of markets. This can be explained by a withering faith in the omnipotence of the modern regulating state that was established in the second half of the 20th century, intention to improve the quality of regulation, need for better governance, reduction of administrative burdens, and new solutions generated by regulatory failures. In relation to the 2008 crisis, the analyses mention the deficiencies of previous regulations and the need for strengthening governmental regulation. Some of the more in-depth studies call attention to the fact that the coexistence of various modes of regulations dates back to a longer period, their relative weight changed a number of times even in the past century, and alternative regulatory measures often complement each other (*Bartle–Vass* [2005]). This is the approach we chose as well, since we believe that the activity of market actors – especially in modern economies – is regulated by differing degrees of state influence, and activities of self-regulation, co-regulation and joint regulation can be placed along this line as alternative, in some cases, supplementary solutions to direct governmental regulation.

* This paper is a shortened, edited version of an earlier one prepared with the support of a grant GVH VKK AL/1206/2011. We are grateful to *István Ilyés* for his excellent research assistance. We also acknowledge support from the grant of OTKA No. 81235.

QUESTIONS OF DEFINITION AND OPTIONS OF ALTERNATIVES

Between the two extremes of governmental regulation and no regulation, there are several options for shaping and influencing the behaviour of market actors. Among these, the most explored themes in the literature are opportunities in information provision, the operation of certain market mechanisms, self-regulation and co-regulation (*BRTF* [2005], *Bartle–Vass* [2005], *Hepburn* [2009]). Those wanting to intervene because of negative developments in the market conditions (market failures), must consider if any type of intervention delivers greater benefits than the costs of market failures. If it does not, then there is no intervention. An extreme point among alternative choices is governmental regulation,[1] when legal means are used to create a regulatory framework and an organisation responsible for observing and enforcing compliance. As a middle ground, the desired aim is achievable with the help of certain market mechanisms (such as tax and support incentives); or perhaps information and education campaigns can be launched with the use of possible certificates, labels and emblems; the self-regulation of market actors can be trusted; or self-regulation can be developed by government incentives (co-regulation).

Most reports and studies dealing with the topic divide state interventions according to their intensity, with some variation in the number categories defined. However, questions pertaining to regulations may also be analysed from other perspectives, for instance, according to the market structure of regulated areas, formal or informal modes of regulation, root causes, objectives, or the measures of regulations. The focus of analysis may of course also differ depending on whether the purpose is to describe an existing regulatory condition, or to change it.

Alternatives beyond existing governmental regulations however show that different divisions and typologies do not neatly correspond to regulations in the real world. The diversity of regulatory processes and differences in real life scenarios demand diverse regulatory solutions, the majority of which are some combination of the versions described in typologies (*Bartle–Vass* [2005], *Coglianese–Mendelson* [2010]).

In the following, we restrict our analysis to self-regulation and joint regulation.[2] partly because even this area contains ample varieties, partly because these regulatory forms – which incorporate elements (for example, certain market mechanisms, information provision agreements) of other kinds of regulation – is the most prevalent. At the same time, it must be borne in mind that this restriction also distances our analysis from the traditional approach to discussing market and sectoral regula-

[1] Governmental regulation may include: legislation, governmental implementation of public policy, general competition regulation and sectorial regulation as well. The categorisation of rule-makers and regulations as well as the role of legal and technological rule-making are analysed in detail in the studies of Ferenc Kiss (*Kiss–Major–Valentiny* [2000], *Kiss* [2008]).

[2] Co-regulation might be called as meta-regulation (*Coglianese–Mendelson* [2010]), situated between governmental and self-regulation. It alloys of the features of both.

tions, as it inevitably addresses regulation on the supply side of the market, which is primarily driven by the need for compliance. For this reason, self-regulation was left outside the regulatory literature of classic economic theoretical framework for a long time, and only surfaced on the horizon of regulatory analyses in the past decades.

Coglianese–Mendelson [2010] worked out a useful analytical method for the separation of basic characteristics of regulation. Their method takes into account four factors of regulations: the regulated, the regulator, the regulation as a command and the consequences of regulation (command).

1. The regulated is usually a business firm but it can also include individuals, government organisations, or non-profit organisations. One of the main features of the target is that it bears the consequences of non-compliance.
2. In this relationship, the *regulator* creates the rules and enforces compliance. Traditionally, the state is regarded as the regulator but as we will see this is holds only in some cases. It is not true if, for example, regulation is devoid of government regulation, or it is an activity remote from governmental interest, or there are signs of independency from the government. In reality, the modern state exhibits at least a "passive interest" in self-regulation (*Bartle–Vass* [2005]).
3. In the *regulatory process,* commands encourage or discourage certain forms of behaviour by the regulated (target) entities. Regulation can specify not only the goals but also the means to achieve them, for example, when they direct the regulated activity into the desired direction by standards, or they can prescribe performance targets.
4. Regulatory commands can have negative and positive *consequences*. Fines and sanctions can be expected for non-compliance, and subsidies or perhaps, exemptions from restrictions for compliance. However beyond a certain magnitude of consequences the direction of negative and positive effects may no longer make sense. A massive subsidy given to firms that comply, for example, can be equal to a very serious penalty to firms that fail to comply.

This theoretical framework can also be applied to self-regulation and co-regulation. Self-regulation means regulatory conditions, whereby the regulated entity gives commands for itself and bears the consequences. Thus, in this situation the regulator and the target are in a close relationship with each other. In contrast, in co-regulation the main role is played by an external regulator, and only the remaining process phases may concur with those experienced in self-regulation. The term, compelled regulation is, therefore, also often used for this type, indicating that the regulation was initiated by an external regulator.

The origin of self-regulation is typically associated with the regulatory processes of primitive societies, where belonging to or being excluded from a group make certain behaviour more or less desirable. In these circumstances modern theories

examine, among others, the free-rider problem, network effects, or for instance, the question of credibility (*Ogus–Carbonara* [2011]). If conditions are given, and there is an opportunity for self-regulation, a number of advantages can be mentioned in comparison with government regulation. As a result of proximity to the regulated, the accumulated experiences and professional knowledge can be used more efficiently, self-regulation can respond to changes more rapidly and flexibly, putting less burden (cost) on the state and the target, and finally, the markets also work more efficiently due to a higher degree of commitment and loyalty on the part of the target. Naturally, all these advantages can only be enjoyed if public interest can – beside the private one – prevail during self-regulation, anti-market endeavours can be prevented, and efficiency is strengthened by transparency and accountability.

Self-regulation or co-regulation most often take place when the collection of information indispensable for regulation can be solved by them. This situation may arise, among others, in fast changing sectors or in highly complex regulatory scenarios. There are many cases when an external, governmental regulator does not even recognise the existence of the problem awaiting regulation, or if it does, then cannot see the full scale and expected effects of regulation. Regulators should be aware of the weight of the problem that awaits solution, the damages associated with unsolved problems, and the likelihood of damages. The difficulty of judging these issues may tip the balance in favour of self-regulation when it comes to choosing between alternative forms of regulations. After all, what matters in practice is whether the entities in self-regulation (and co-regulation) succeed in deciding in favour of the common social interests over the individual interests (*Coglianese–Mendelson* [2010]).

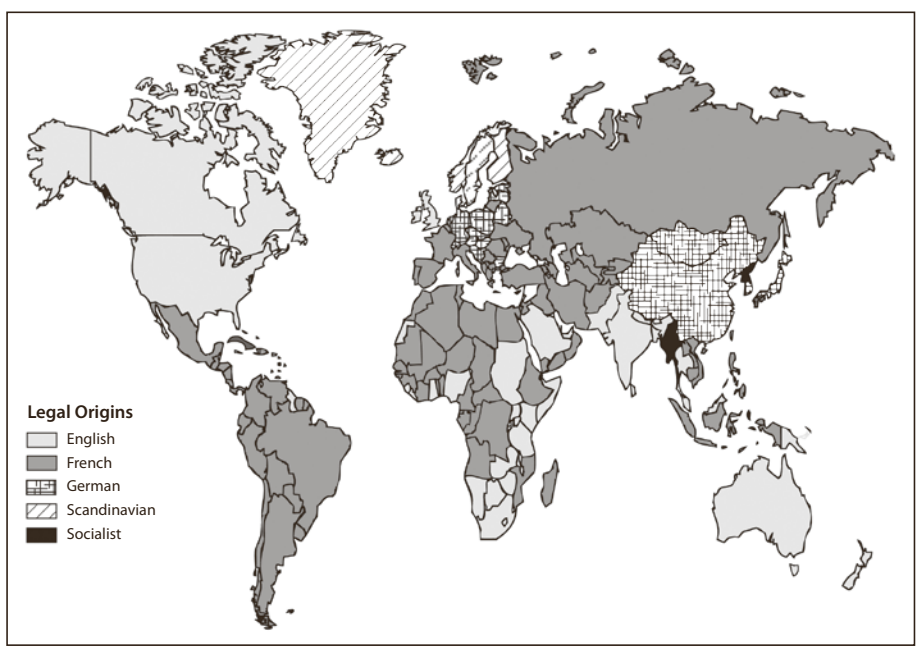
REGULATORY ALTERNATIVES AND LEGAL ORIGINS

The global map of regulation has significantly changed in the past two decades. Even though the regulation of competitive markets is not a new phenomenon, comprehensive legislations that regulate competition are a relatively recent development. Some literary sources estimate that there are about a hundred countries that adopted such legislation. In one available sample of seventy countries it became apparent that 60-70 per cent of the countries adopted the first modern competition laws in the past two decades. According to analyses of the relationship between legal traditions and competition rules, the differences in legal traditions are reflected in the institutional and procedural systems of the application of competition rules (*Lee* [2005]). Summarising the effects of legal origins, *La Porta et al.* [2008] also find that the differences in rule making and regulations are to a significant extent determined by legal origins. Previous colonial empires played a crucial role in the

spread of different legal origins. There are five larger legal origins differentiated in the 152 examined countries: the Anglo-Saxon legal origin based on legal precedence (*common law*), 42 countries are listed here, the continental legal origin (*civil law*) including the French (84 countries), German (19 countries), and Scandinavian (5 countries) sub-system; and finally the socialist legal origin (2 countries). *Figure 1* shows the influence of each legal origin in the world.

It is worth comparing this map to the annual report of the World Bank that takes into account the most important factors of business environment (administrative burden, constraints, costs, legal certainty, predictability) and ranks countries according to the broader regulatory environment of doing business (http://www.doingbusiness.org/rankings). According to the June 2011 survey, more than half (11) of the first 20 countries most conducive for doing business belonged to the Anglo-Saxon legal system, five into the Scandinavian, and four into the German.

This picture can be further elaborated if we look at the history of public service regulations. In the past century, three countries played the most important role in the creation of sectoral regulation: the United States, Canada, and the United Kingdom. The former two because of their more than century-old regulatory traditions, the latter because of the new regulatory structure created in the 1980s



Source: La Porta et al. [2008] p. 289.

FIGURE 1 • **The influence of legal origins**

that diverged from the American model and followed a European organisational framework for public services. The two regulatory frameworks also proved seminal for each other, many elements were transferred between the two, and this process was later enriched by the experiences of other countries as well. There were two other Anglo-Saxon system countries that have become front-runners in radical recreation of regulations, developing new methods and incentives, and reducing over-regulation: Australia and New Zealand. The accomplishments and failures of these countries also often feature in the literature of regulatory theory and practice, but noteworthy solutions were used in South-Africa (Anglo-Saxon), Malaysia (Anglo-Saxon) Korea (German) and Chile (French). In Europe mostly the Scandinavian countries, the Netherlands (French) and occasionally Spain (French) followed the increasingly prevalent British regulatory innovations.

While law making originating from the Continental law characterised, primarily the area of public services (the prevalence of state monopoly, centralised law making and regulation), the Anglo-Saxon legal order – where case laws are characterised by higher uncertainty – provided more opportunity for the creation of decentralised regulatory forms.

Soon, besides government regulations, other regulatory solutions also appeared in the Anglo-Saxon countries, and these served as examples for other nations. At the same time, in the use of government regulation and self-regulation, one can observe a period of varying intensity even in the Anglo-Saxon countries. There were fluctuations between both the increase and decrease of demand for regulation as well as the two regulatory forms. In the United States the progressive period is considered to be the development of the governmental regulation (the period between 1890 and 1920), while during *New Deal* new forms of regulations had been developed (*Ogus–Carbonara* [2011]). In the United States the use of self-regulatory systems has by now become a standard practice. The Federal Trade Commission of the United States recently prepared a report on the self-regulatory systems in the alcohol industry (2008) online behaviour advertising (2009), and marketing food to children (2008) (http://www.ftc.gov/reports/index.shtm).

The fluctuations were typical in Great Britain as well. In the 19th century, after the industrial revolution, a number of forms of self-regulations were established, but by the second half of the 20th century their further applicability had been questioned, especially in periods when corporate bankruptcies increased because of business management problems, and in order to ensure compliance with laws, more effective deterrents were needed than before. Despite all this, today, the 21st century is considered the renaissance of self-regulation in Great Britain.

Using the evaluation of *Bartle–Vass* [2005], it is worth further exploring the changes in self-regulation and co-regulation in the British system. The areas that, even today, exhibit various forms of self-regulation have strengthened in the 19th century: manufacturing industry, various trades (doctors, lawyers, engineers, audi-

tors) and financial affairs. A series of laws provided opportunity for self-regulation [*Factory Act* (1833), *Medical Act* (1858), *Companies Act* (1862)] that only laid down the general framework of regulation and essentially relied on cooperation, agreement and supervision by the regulated entities themselves. Thus, in this case one can talk about co-regulation that constituted a deeply rooted and fundamental element of British regulation until the second half of the 20th century. For this period – despite the emergence of opening markets in numerous sectors, and a general trend of dismantling unnecessary regulations (deregulation) – there were also several signs of strengthening government regulation. The privatisation of public services in the 1980s and 1990s created a new regulatory environment and government regulatory system, but in the financial regulatory environment, the former self-regulatory system was also tightened [*Financial services and Markets Act* (2000)] which resulted in the incorporation of nine, previously partially self-regulatory bodies into a single government regulatory organisation. In some professions the extent of self-regulation was reduced: the profession of auditors was re-regulated in 1990, then in 2002, that of lawyers in 1990, and in both cases the former autonomy of sectors was reduced. In the field of education and health, in this period, incentives of certain market mechanism were increasingly used, but especially, for this reason the role of controls and government regulators also increased.

Among the reasons that decreased self-regulation, *Bartle–Vass* [2005] highlight the decline of trust, adaptability and the strengthening of risk-avers behaviour, which, coupled with cases of business scandals and abuses of dominant positions, compelled successive governments to introduce stronger regulations. The rearrangement between the individual types of regulations, however, was not unidirectional. Due to globalisation, contradictory processes were also under way in trans-national regulations. In the case of trans-national activities, new regulatory forms were initiated by business actors, most of which took self-regulatory or joint-regulatory forms. One of the examples is the internet, where self-regulation by the actors of the industry was later supplemented by state actors as well. The classical areas of government regulation, such as the regulation of public services, have also gradually transformed. Many believed that established regulatory mechanisms were too rigid and there was over-regulation. Even those who did not share this opinion, had increasingly admitted that there were more and more areas and submarkets in these sectors, which could be opened up to market mechanisms. To this end, *ex ante* type sectoral regulations were limited and the use of analytical tools in competition rules were adopted as well. In some cases, there were attempts to develop a regulatory framework based on self-regulation, but, for example, in the case of connection fees, the attempt of Oftel, a British telecommunication regulator, had proved to be unsuccessful.

By the second half of the 1990s, demand increased for rethinking different forms of regulations as well as developing better, more efficient regulations, which some-

times led to various conferences and the proliferation of different organisations, institutions and committees responsible for regulating regulations. Driven by a desire to improve conditions, and later, as part of its agenda, the OECD organised a number of conferences, held roundtables and prepared recommendations in the theme of regulatory reforms (*OECD* [1997*a*], [2001], [2004], [2009*a*], [2010*a*], [2012]). In Great Britain, an advisory committee (*Better Regulation Task Force, BRTF*) set up by the government in 1997 prepared recommendations for the improvement of regulation, which prescribed the reduction of direct government interventions and a more frequent use of self-regulation as an option to consider again (*BRTF* [1999], [2000], [2003], [2005]).

Between 2006 and 2008, the advisory body was renamed *Better Regulation Commission* and its powers were increased. Concerns for improvement were also enacted in legislation affecting regulatory authorities. The Energy Act (2004) obliged authorities to follow the principles of better regulation and implement good practices. Pursuant to the Communication Act (2003), regulatory authorities, besides the previously mentioned obligations, had to take into account the expected burden of regulations, and where possible, were obliged to promote self-regulation. In certain markets, the act also recommended the use of codes of conducts adopted in self-regulatory frameworks. Also, touching on also the operation of Office of Fair Trading (OFT), the Enterprise Act (2002) emphasised the importance of the prevalence of the codes of conduct, which was later clearly interpreted by the OFT as a broader applicability of self-regulation.

In 2005, the British government established the Better Regulation Executive (BRE) that coordinates the government's activities in regulatory affairs. The office is currently under the Department for Business, Innovations and Skills (BIS) and its task is to evaluate the regulatory plans of the government in two respects. First, it must be examined whether a regulatory alternative exists that could replace and bring the same result as the regulation intended by the government. If it does not exist, the introduction of new regulation can only be endorsed if it reduces red tape created by existing regulations or implies deregulation (http://www.bis.gov.uk/policies/bre/principles-of-regulation). This is also helped by the principle that every time a regulation is approved an existing one needs to be cancelled, and in the case of new regulations, their planned end data or termination must also be indicated (*BRE* [2011*a*], [2011*b*]). A recent innovation is that in order to facilitate better selections from classical regulatory opportunities (the use of market mechanisms, information and education campaigns, self- and joint regulation), the findings of behavioural economics must be taken into consideration (*Dolan et al.* [2010], *OFT* [2010]).

As well as the British government, the Australian one also made great efforts to promote a more widespread use of self-regulation. The minister responsible for consumer protection and the regulation of financial markets established an

advisory body called Taskforce on Industry Self-regulation (TIS) in 1999. A report published by the advisory body in 2000 examined the cases when self-regulation could become the most and least efficient regulatory solution (*TIS* [2000]). A Consumer Competition Act enacted in 2010 dealt with the form of self-regulation set out in the codes of conduct. The Australian Competition and Consumer Protection Commission (ACCC) developed self-regulatory guidelines to facilitate compliance with the act by professional and occupational organisations as well as companies operating in consumer markets (*ACCC* [2011]). Not even the regulated markets were left out from the new wave of self-regulation. A case in point is the Australian Communications and Media Authority (ACMA). A report developed by this authority summarised the optimal conditions of efficient self-regulation and co-regulation (*ACMA* [2010]).

The development of better regulatory systems was supported by the systematic use of Regulatory Impact Analyses (RIA). A more substantial review of the quality of regulations also enabled increasingly more in-depth analyses of regulations in terms of transparency, consultation mechanisms, institutional solutions, monitoring and progress checks (*Valentiny* [2008]). This process that had started in the United States in the 1970s, spread to a number of countries by the 1980s, and afterwards the use of regulatory impact analysis was articulated by the OECD recommendations and incorporated into the practice of the European Union as well (*OECD* [1997*b*]). A recurring aspect of impact analyses is the consideration of regulatory alternatives. According to a survey by the OECD published in 2008, the consideration of regulatory alternatives was obligatory in all of the 31 examined member states, but there was no obligation to do so in writing in nine countries, at least one written analysis was required in 14 countries, and at least two in eight countries (*OECD* [2009*b*]). Data pertaining to individual countries is provided in *Table 1*.

Regular quality control of regulations and impact assessments were introduced in the European Union at end of the 1990s. Many consider the disclosure of the Mandelken report as a decisive moment in this process (*Mandelkern Group* [2001]). The report summarised the most important principles of good regulation and emphasised the importance of impact assessment and weighting of alternative instruments. Following the Mandelken report, annual reports analysing the practice of better regulation (http://ec.europa.eu/governance/better_regulation/reports_en.htm) and the use of impact assessments (http://ec.europa.eu/governance/impact/key_docs/key_docs_en.htm) were established in the European Union. The Commission thus decided that in this way it could speed up the process. As a result of improved regulation, it was expected that, on one hand – to use a new term – smart regulation would be realised in the whole policy cycle, from the design of pieces of legislation to implementation, enforcement, evaluation and revision, and on the other hand, the most affected parties would have a key role in the process (*EC* [2010]).

TABLE 1 • **Alternative regulations in OECD countries**

	Assessment of potentially feasible alternative instruments		
Country	Regulators are required to assess alternative instruments before adopting new regulation	It is required to be provided in a written form	This written assessment is required to include more than one alternative
Australia	always	Y	Y
Austria	always	Y	N
Belgium	occasionally	N	–
Canada	always	Y	N
Czech Republic	always	Y	N
Denmark	always	N	–
Finland	always	Y	Y
France	occasionally	–	–
Germany	always	Y	N
Greece	occasionally	Y	N
Holland	always	Y	N
Hungary	occasionally	Y	Y
Iceland	always	Y	N
Ireland	always	Y	N
Italy	occasionally	–	–
Japan	always	Y	Y
Korea	always	Y	N
Luxembourg	occasionally	N	N
Mexico	occasionally	Y	Y
New Zealand	always	Y	N
Norway	always	N	–
Poland	always	Y	N
Portugal	occasionally	N	–
Slovakia	occasionally	N	–
Spain	occasionally	N	–
Sweden	always	Y	N
Switzerland	always	Y	Y
Turkey	occasionally	Y	Y
United Kingdom	always	Y	N
United States	always	Y	Y
European Union	always	Y	N

Source: OECD [2009*b*] p. 106.

TABLE 1 • **Alternative regulations in OECD countries** (continued)

	Guidance on using alternative policy instruments						
		Topics addressed					
Country	Has been issued	Performance based regulation	Process (or management) based regulation	Co-regulation	Economic instruments	The use of quasi regulatory guidelines	Voluntary approaches
Australia	Y	Y	Y	Y	Y	Y	Y
Austria	N	–	–	–	–	–	–
Belgium	Y	Y	N	Y	Y	N	Y
Canada	Y	Y	N	N	Y	N	Y
Czech Republic	Y	N	N	Y	Y	N	Y
Denmark	Y	Y	Y	Y	Y	Y	Y
Finland	Y	Y	Y	Y	Y	Y	Y
France	Y	N	N	Y	Y	N	Y
Germany	Y	Y	Y	Y	Y	Y	Y
Greece	N	–	–	–	–	–	–
Holland	Y	Y	Y	Y	Y	Y	Y
Hungary	N	–	–	–	–	–	–
Iceland	N	–	–	–	–	–	–
Ireland	Y	Y	N	Y	Y	Y	Y
Italy	Y	N	N	Y	Y	Y	Y
Japan	Y	N	N	Y	Y	N	Y
Korea	Y	Y	Y	Y	Y	Y	Y
Luxembourg	N	–	–	–	–	–	–
Mexico	N	–	–	–	–	–	–
New Zealand	Y	Y	Y	Y	Y	Y	Y
Norway	N	–	–	–	–	–	–
Poland	Y	Y	Y	Y	Y	Y	Y
Portugal	N	–	–	–	–	–	–
Slovakia	N	–	–	–	–	–	–
Spain	N	–	–	–	–	–	–
Sweden	Y	N	N	N	Y	Y	Y
Switzerland	Y	N	Y	N	Y	Y	Y
Turkey	Y	N	N	Y	Y	Y	Y
United Kingdom	Y	Y	Y	Y	Y	Y	Y
United States	Y	Y	Y	Y	Y	Y	Y
European Union	Y	N	N	Y	Y	N	Y

Source: OECD [2009*b*] p. 106.

The search for direct alternative instruments was from the outset included in the implementation of better regulation. Earlier, the widespread use of self-regulation and co-regulation only formed an integral part in the decentralised "soft law" framework of Anglo-Saxon legal systems. Other countries, concerned about the potential erosion of government, put restraint to such initiatives. However, a White Paper published in 2001 as well as subsequent sectoral recommendations laid down the generally accepted principles of self- and co-regulation. The final push was given by an Inter-institutional Agreement on better law-making (2003) between the three institutions of the European Union (Parliament, Council and Commission). The joint resolution stipulated that in cases where the Maastricht Treaty did not require the use of legal instruments, there was also an opportunity for the use of alternative regulatory instruments. The resolution also identified cases where this could not be done, namely, the cases, where there were fundamental rights and important political questions at stake, or where laws had to be used uniformly in all member states.

This document was the first attempt to define in the framework of the European Union what was meant by self- and co-regulation. Self-regulation is perceived as an opportunity by economic actors, social partners as well as non-governmental organisations and associations to develop directives (primarily codes of conduct or sectoral agreements) for and among themselves (*Interinstitutional Agreement …* [2003] Article 22). In co-regulation, the legislative power defines an objective and empowers the above actors (economic actors, social partners, non-governmental organisations and associations) to reach that by their own means (*Ibid.* Article 22). The resolution articulated the conditions for the use of regulatory instruments, and the control of implementation of the agreement.

In most member states, self-regulation, of course, has already been at place for a long time in certain occupations and in the form of technical standards. But a more extensive, European-level self-regulation has been taking place only since the beginning of the 1990s (for example, advertising agencies, legal counsellors, restaurants, travel agencies, internet providers, hairdressers, real estate agents, etc). These were primarily concerned with training, recognition of qualifications, rules of rule-making, and hence, facilitated the flow of activities in the given professions among the member states. In the past years, self- and co-regulation have been extended by the inclusion of consumers. The number of European-level self- and co-regulations has been increased by the improvement of product information quality, the development of security-enhancing purchase conditions (payment, service provisions, maintenance, handling of complaints, etc.) and new challenges posed by electronic commerce (*EESC* [2005]).

In order to increase the scope of alternative regulatory forms and share best practices, an independent database was established, linked to the monitoring system of the internal market, which would support the analysis of self- and co-regulation.

In the evaluation in 2009, there were 108 operating and 17 completed regulatory initiatives in the database. 83 were related to the European Commission and 25 to the European Economic and Social Committee. Among these, there were 47 (5 terminated) self-regulations and 61 (12 terminated) co-regulations. The European Commission examined 78 regulations (including 17 closed cases). In 2011, the list was extended by four new regulations (http://www.eesc.europa.eu/?i=portal.en.self-and-co-regulation-enter-the-database). The database features the legal background that led to the creation of the regulation, the objective, methods of monitoring and sanctions, geographical coverage, type of financing and the Commission's opinion on the regulation.

The summaries of the database analysis provide a glimpse into self- and co-regulations in some of the more important fields of activity of the European Union (*Hoogen–Nowak* [2009]). Most regulatory initiatives arose in connection with the European Union's internal market, this was followed by regulations pertaining to enterprises and industries, and thirdly, by the energy and transport sector (*Table 2*).

TABLE 2 • **Self- and co-regulation by sectors**

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	1990–2007
Agriculture			1																1
Employment, social affairs								1			4	1	1	3		1			11
Energy, transport								3		3			3	2		2			13
Enterprise, industry	2						1		1	1		3	1	1	4	2		1	17
Environment									1	2	2			1	1				7
Fisheries and maritime affairs										1									1
Health, consumer protection												2	2	1	1	3	1		10
Information society, media									1			1		2	1		2		7
Internal market, services		1	1			1			1		2	3	4	4	6	4	4	2	33
Public administration																1	1		2
Research											1					2			3
Total	2	1	2	0	0	1	1	4	4	7	9	10	11	14	13	15	8	3	105

Source: Hoogen–Nowak [2009] p. 151.

EXAMPLES OF SELF- AND CO-REGULATION

Empirical case studies

Self-regulation often occurs when the regulated entities are "threatened" by upcoming government regulation. In these cases, those involved in self-regulation usually choose self-regulation as a preventative action. By accepting quality parameters for products and services in the framework of self-regulation, it might be possible to achieve more favourable outcomes for the industry than under the conditions of possibly stricter government regulations. But these tactics can backfire, as it is often the self-regulatory steps that draw the government's attention to an area that is not or not adequately regulated. In other cases, self-regulation is developed or changed in reaction to a shock effect. As mentioned by *Coglianese–Mendelson* [2010], among the classical examples is a relatively unsuccessful self-regulatory attempt following the Indian chemical disaster in Bhopal, and a more successful one in reaction to the nuclear accident on the Three Mile Island in the United States. Both cases have been studied extensively.

In reaction to the former case, the Chemical Manufacturers Association in the United States launched a programme called *Responsible Care* in 1988, which was shortly followed by Australia and Great Britain as well. In the framework of the programme, participants made a commitment that they would develop codes of conduct pertaining to environmental, health and safety measures. These commitments were developed by companies one by one regarding their activities and they defined how the stipulated objectives should be achieved. However, the association did not disclose to the public if its members fulfilled their commitments and no company was excluded for non-compliance or poor compliance from the association. The flow of information between the members was poor, board members could learn the names of non-complying companies only since 1996, and internal ranking lists on the compliance of companies have been created only since 2000. Participants' compliance have only been verified by a third party since 2007. Research dealing with the programme could identify few positive aspects and claimed that there was more paper work than impact on the environment. There was a study which found that companies not participating in the programme could more significantly reduce their toxic emissions than those who participated in the programme (*Coglianese–Mendelson* [2010] pp. 154–155).

The other example confirms though that self-regulation can be successful. Before the nuclear disaster on the Three Mile Island there was no need in the nuclear industry to develop safety plans on a sectoral scale. After the disaster, a report prepared by the Kemeny Comission recommended the revision of sectoral standards, the regular collection of information and the preparation of independent, third-party evaluations. According to some, the institute (*Institute of Nuclear Power Operations, INPO*)

established by the leaders of the nuclear industry prevented the federal ownership of nuclear power plants. The INPO conducts regular reviews in power plants based on a list of recommendations compiled from 417 reports that have been prepared up to now. The two-week review is carried out by 20 persons and upon the completion of their task they prepare operative recommendations. During reviews a ranking is created comprising all INPO members, which stimulates sectoral actors to comply with standards to the fullest extent. The review material is, however, confidential, not even the members can have access to them. Studies examining the operation of the INPO consider the organisation as a good practice for self-regulation and add that it may be a further success factor if the self-regulatory organisation operates in a sector that is made up of closely cooperating members that are few in numbers and relatively homogeneous (*Coglianese–Mendelson* [2010] pp. 155–156.).

In the empirical analyses summarised by *Ogus–Carbonara* [2011], the advertising industry is frequently mentioned as a good example of self-regulation. It was quickly realised in this industry that the credibility of services can be increased by an emphasis on professional responsibility. In spite of this, their self-regulatory organisations only took a strong line against non-complying organisations, when the threat of governmental regulation increased. Similar conclusion were drawn about the operation of commodity exchanges.

For a long time, the cyber space (online communication systems) was considered to be a typical example of self-regulation. In the 1990s this area was characterised by self-regulation and in the past decade co-regulation has increasingly become prominent, primarily in those fields where regulatory principles needed to be coordinated with existing governmental regulatory organisations (for example, in the case of offensive content). The security of cyber space is, in general, considered to be an area where, due to the free-rider problem, market solutions are less effective. There is a need for some sort of regulation, but the global nature of the network makes it difficult to develop any feasible arrangement. There is a need for a joint application of self-regulation and international cooperation.

Empirical studies of self-regulation in various occupations have found rent-seeking opportunities in a wide range of professions such as opticians, dry cleaners, lawyers or dentists. Standards developed by self-regulatory professional organisations – for example tariffs or advertising restrictions or rules of professional ethics – often protected the interests of regulators rather than those of consumers, and prevented the use of cost reduction measures. According to *Kleiner's* [2006] calculations, in professions subject to licencing the social costs of maintenance of licencing significantly exceed expected benefits. He believes that the introduction of professional certificates demonstrating compliance would create higher competition and lower barriers to entry than licencing.

Typical areas of co-regulation are financial services, management of hazardous materials, food safety, or for example, pollution. Co-regulation aimed at the

reduction of toxic waste in certain states of the United States provide adequate empirical data for the analyses of co-regulation (*Coglianese–Mendelson* [2010] pp. 157–158.). First, it was the state of Massachusetts that imposed a law to limit waste pollution by 50 per cent. In order to meet this requirement, the state compelled respective companies to prepare a waste reduction plan, but only planning was obligatory, the content could be decided by the company and the implementation was not verified. The commitment merely consisted of a reduction plan that needed to be prepared in every other year. Nevertheless, waste reduction (between 1988 and 2007) was higher – 90 per cent – than required by the law. A survey conducted three years after the law had taken force found that 81 per cent of responding companies realised at least some, but some companies did so with all measures that they had planned. 67 per cent also perceived a cost reduction effect by the introduced measures, and 86 per cent declared that they would intend to carry on with the planning practice, even if the state did not prescribe it any longer. At the same time, studies of the effects of legislation pointed out that in the given period, waste emissions were reduced by 81 per cent overall in the United States. The practice of Massachusetts, that is, the prescription of planning was followed by 13 member states. In these states together the degree of reduction was 30 per cent higher than in other states. The benefits of this type of regulation however, gradually decreased, and were only significant in the first six years. Overall, the above mentioned methods of co-regulation were considered successful, but it is assumed that in the long run, they would not remain effective.

Self-regulatory systems, however, are not able to adequately attend to their tasks in all cases. The following two examples illuminate inadequacies in self-regulation and a need for more direct state control that evolved in the areas of audits and credit rating.

The audit market

Audits were characterised by self-regulation for a long time. The professional association of audits developed the rules and standards of auditing, and enforced compliance. Self-regulation was also justified by the complexity of professional knowledge. Auditors detected it much easier if among those performing similar tasks, one of the parties went wrong in the client-contractor relationship system, or an auditor got excessively under the influence of or was potentially mislead by a client. In the case of clients with diverse activities, innovative and often changing portfolios, those with daily contact with companies were really in an advantageous position. For a while, it was considered as an advantage of self-regulation that the costs of regulation were borne by the regulated entities. As a result of regulation, the reliability of the profession increases, the service becomes more valuable, and the costs of regulation are absorbed and feature as a price increase factor.

After some time, however, financing was put in a different perspective. The financing of a self-regulating organisation within the trade questioned the independence of the regulator. In the United States, the behaviour of auditors massively undermined the trust in self-regulation when during a dispute on the independence of the self-regulatory organisation, the auditing companies considered the reduction of funding (*Pritchard–Puri* [2006]).

Cartel formation is usually also considered among the dangers of self-regulation, and many see their concerns justified as the number of largest auditing firms decreased to four (*Valentiny* [2012]). Self-regulation can also encourage the increase of professional standards to an extremely high level, which can lead, on the one hand, to the exclusion of certain companies, and on the other hand, to the artificial stimulation of demand for services. The consistency of use of sanctions, in some cases, may raise doubts, but penalties can have negative effects for the whole trade. In the regulation of audits the mode of obtaining information is not resolved: while member organisations cooperate in this respect, the cooperation of the most important party, that of the client, is usually not possible due to a conflict of interest.

In the North-American continent two parallel and in many respects different audit regulations have evolved. In the United States the supervision of audits was under the stock exchange supervisory authority (Securities and Exchange Commission), but in practice it was professional associations that were in charge of carrying out the task. In Canada the laws did not directly affect audits. The corporation law entrusted self-regulatory bodies with the development of professional standards and rules of independence. The committees of professional organisation developed the rules and the mechanisms of checks and accountability. The two countries differently reacted to the corporate crisis affecting the audits (for example, Enron, Worldcom) as well as the 2008 crises. In the United States the functioning of self-regulatory body called Financial Accounting Standards Board (FASB) has received a lot of criticism. They reacted slowly to the demand of enforcing technologically driven changes in audits, while at the same time, their rules enabled certain companies to disclose false revenue and profit data, thereby artificially increasing their share prices and credit ratings.

A United States law on the reporting and responsibility of companies and audits, which is named after the claimants as the Sarbane–Oxley Act [Corporate and Auditing Accountability and Responsibility Act (2002)], was aimed at tightening checks. A new organisation called Public Company Accounting Oversight Board (PCAOB) was established to supervise audits. The act stipulated the separation of audits and consultancy, the obligation to fully disclose risks, the exchange of auditors, and a significant improvement of internal supervision (*Romano* [2004], *Zhang* [2005]).

The assessments of PCAOB became regular and the activities of the four large auditors in 2010 were summarised in four reports. The mistakes made during audits were revealed and recommendations were put forward for their correction. Irregularities were found in 26 cases out of 57 at Deloitte, in 15 cases out of 62 at Ernst

& Young, in 12 cases of out of 54 at KPMG, in 28 cases out of 76 at PwC (*PCAOB* [2011*a*], [2011*b*], [2011*c*], [2011*d*]). The supervision prepared a separate report on the activities of auditors during the crisis, it identified areas with specifically many problems and where evaluation standards developed by the supervision were not adequately used – for example, fair value accounting, income taxes, stocks, calculation of revenues, accounting off-balance-sheet items, devaluation of goodwill, etc. However, in relation to audits as a whole, the reports did not identify serious problems that correlated with the crisis (*PCAOB* [2010]).

Canadian self-regulation reacted sensitively to the series of company failures. The professional association established an independent body for the supervision of auditors in 2002. Members of the body consisted of famous personalities of the business life and the representatives of regulatory organisations. The body oversees the standard and rule development process and keeps contact with the public. The Canadian Public Accountability Board (CPAB), a regulatory organisation established under the Enterprise Act in 2003, has dealt with the regulation of auditors of publically listed companies. Apart from the professional auditing association there are two other self-regulating audit organisations operating in Canada. After 2004, the legislation of certain provinces made it possible that following adequate qualification these organisations could also audit the publically listed companies, and thereby contribute to the dilution of high concentration. In line with changes to the enterprise act, the regulation of financial reports and auditing committees had also changed, as they made steps to increase their independence. The federal government also declared the applicability of criminal code in relation to the failures of corporate management. The Canadian reforms are less drastic than the ones in the United States, the CPAB is not directly under a government body, as opposed to the PCAOB, which is overseen by the US Securities and Exchange Comission (SEC). The Canadian oversight – in contrast to the one operating in the United States – does not compile standards, and the traits of self-regulation are still very strong in the Canadian regulation.

Studies and recommendations have been made in Europe as well to analyse and resolve the problems of audit market. A Green paper published by the European Commission in October 2010 summarised the lessons of the crisis and proposed solutions. In certain cases, the proposed solutions follow those in the Sarbane–Oxley Act, in other cases they are more radical. The primary aim of the recommendations of the European Commission is to strengthen the independence of the auditors and to "diversify" the auditing market. An important part of the recommendations is the strengthening of supervision of auditors on the national and European level.

The internal rules of audit firms are also changing. Regarding property relations, the rule which required that partners must constitute more than half of the owners is cancelled. In line with the basic principles of audit procedures the draft decree emphasises professional scepticism in a separate chapter as basic rule of conduct. In order to create a single market for compulsory audits, a European passport is

introduced for the audit profession. In order to strengthen audit oversight, the investigatory rights of national supervisors are increased and their independence from professional organisations is required everywhere. The Commission recommends that the coordination of supervision matters should be undertaken by the European Securities Markets Authority (ESMA) (*Staff Working Paper* [2011] pp. 256–259.).

Credit rating market

Large and centuries-old credit rating agencies started their activities with collecting and selling information and statistics about business actors. Analysing, rating and classification practices have evolved from these activities. Credit rating agencies – similarly to auditors and insurance companies – occupy a special status in the institutional system of business: their findings can be used by regulatory, control institutions, or even by courts, which render credit rating agencies part of a regulatory process. There was a time when credit rating agencies were described as ideal cases of self-regulation, since their products were clearly visible and their ratings were well-measurable. For this reason, good reputation is an extremely important element of their functioning and mistakes or anti-competitive behaviour can cause a lot of harm to their reputation. Their activities can virtually not be overtaken by other economic actors, the tasks requiring vast information and lots of experience cannot even be assumed – among others, due to lack of impartiality – by the state (*Sen* [2011], *Mulligan* [2009]).

The extension of the credit rating market was generated by various laws that related to banks, insurance companies, pension funds in the 1930s, and this circle had increasingly widened by the 1970s, as institutes under state control also became increasingly reliant on the services of credit rating agencies (*White* [2012]). Basically, until 1975, the only instrument for the regulation of credit rating agencies was the adoption of a handbook that contained rating principles. The American Security and Exchange Commission (SEC) decided in that year to establish a new category – the Nationally Recognized Statistical Rating Organization (NRSRO) – for the companies that provide information, and among these it immediately acknowledged the three biggest credit rating agencies. The control was, in fact, informal and relied chiefly on feedback from the market rather than standards.

In the following 25 years only four other agencies became recognised organisations, but due to mergers and bankruptcies, only three remained again by 2000. The exact conditions for inclusion in the recognised club were not disclosed by the SEC. The performance of credit agencies during the 2008 crisis was considered worse than that of auditors. In the United States the control rights of SEC were significantly strengthened by the Dodd–Frank Act intended to improve control over the financial system (2010), and in June 2012, an independent body, the Office of Credit Ratings,

was established to oversee credit rating agencies. Incompatibility rules were taken much more seriously for credit rating agencies than before: those working on the ratings have been banned from participation in the selling of ratings, and several aspects of the functions of credit rating agencies have been regulated. It must be publically disclosed what kind of conditions were used in the ratings, whether the rating was a paid or non-paid one. Furthermore, historical data of earlier ratings must also be disclosed for the evaluation of rating's accuracy, and if an employee of a credit rating agency becomes later the employee of a rated company, the employee's rating activity must subsequently be checked and evaluated. (*Dodd–Frank* [2010] SEC.931–939H).

The European regulation also tried to keep pace with the problems that arose during the crisis, and create a framework for regulation by formulating directives and decrees. The European regulation on credit rating agencies, which has been in force since December 2010 (*EPC* [2009]) was amended in May 2011, after the establishment of the European Securities and Markets Authority (ESMA). In effect, the ESMA was entrusted with the oversight of the market and the details of implementing supervision have also been developed (*EPC* [2011]). Conditions for registering credit rating agencies, rules of business conduct, quality assurance, and incompatibility were also defined. The changes of rating methodology, after they are discussed with issuers and investors, must be submitted to the ESMA, which supervises implementation according to the principles developed in March 2012.

The cases of self- and co-regulation presented up to this point demonstrate that the development of this type of regulation depends on the particular legal system and economic environment as well as many other market and professional conditions. The theoretical models attempted to provide a typology for these conditions, weigh their respective prevalence, and examine their effect. In the next section we review the economic models dealing with self-regulation.

THEORETICAL RESULTS IN RELATION TO SELF-REGULATION

The most important goal of economic regulation is to correct market failures. The most frequently cited market failure is deadweight loss caused by market power.[3] Market power and the resultant excessive pricing is usually addressed in the framework of classical regulation, since the "self-regulation" of actors would at best lead to the development of cartels and thus, to more significant deadweight loss. Monopoly power does not only result in high prices: if the monopoly decides about multiple

[3] Deadweight loss may arise if a firm prices above marginal cost, hence some consumers with a higher marginal utility than marginal cost will not buy the good. This means that some socially optimal exchanges do not take place.

factors simultaneously (for example, about the price and the quality) then – depending on the elasticity of the demand function with respect to quality – it may find optimal to choose a too high or too low level of quality (*Spence* [1975]). But since this also follows from market power, classical regulation in this dimension cannot be substituted with self-regulation even under complete information.

Self-regulation can therefore be applied successfully only in those areas where the coordination of corporate decisions is in the interest of both the firms and society. A simple example for this is standardization. Fundamentally, however, the literature focuses on information asymmetries between producers and consumers. This usually arises in the cases of search goods, experience goods and credence goods (*Scarpa* [1999]). For search goods, consumers can only determine the quality of goods after paying some search costs, hence search will be higher than optimal. In the case of experience goods, consumers can get to know the quality of the product only after purchasing it, while in the case of credence goods, not even after that; this last group consists of medical, certain financial and legal services.

Market failure related to asymmetric information can take two forms: adverse selection and moral hazard; which is to say, that on the one hand, market failure may originate from consumers' inability to observe the type of individual service providers, and on the other hand, it can also stem from inability to observe how much effort service providers put into improving service quality. *Akerlof's* [1970] model demonstrates that as a result of adverse selection, the better producers are crowded out of the market, and, the allocation of products among consumers will not be optimal either. This approach is later followed by *Leland* [1979] and *Shaked–Sutton* [1981]. Nonetheless, in the more recent literature, authors primary focus on moral hazard rather than adverse selection.

Reducing the problems stemming from quality-related asymmetric information – in contrast with excessively high prices – may be in the common interest of all stakeholders, therefore, industry-wide self-regulation in these cases may represent a viable alternative to classical regulation. In case of a very strong adverse selection – when a market cannot even operate – it is clear that it is advantageous for both service providers and consumers if industrial self-regulation can control quality and thus restore the operation of the market. In the case of a more moderate degree of adverse selection, it can be similarly argued that self-regulation preventing the crowding out of high quality service providers is beneficial both for consumers and producers (*Leland* [1979]).

Information had a prominent role in the models of the 1990s and 2000s. The reputation of the industry (expected quality) is basically a public good into which firms invest a suboptimal amount, since the cost of these investments would almost exclusively be borne by them, while the benefits could be enjoyed by all companies. In these models self-regulation reduces this public good problem, leading to higher reputation and total profit at the industry level.

While these arguments demonstrate that self-regulation leads to better results than its absence, another important question is the relation of self-regulation to classical regulation. According to the literature, the advantage of self-regulation lies in the more efficient use of information, but its disadvantage is an increased probability of collusion, which can lead to deadweight loss (*OFT* [2009]). For a more profound understanding of the trade-off between classical and self-regulation one should focus more explicitly on the objective functions and constraints different actors face, which became a focus in the literature in the 2000s.

Self-regulation receives an increasingly greater role in the area of environmental protection. The reduction of pollution is in itself not in the interest of the industry, thus, self-regulation in this area is foremost motivated by preventing classical regulatory measures, such as the introduction of pollution quotas. To be able to model this, one also needs to model the political mechanisms deciding about the introduction of quotas, where the lobby efforts of parties are also influenced by the type of alternatives the opportunity of self-regulation represent for them.

In the following, we first present the classical models of self-regulation and then we move on to those models that yield a more in-depth analysis of the function of classical and self-regulations, and their relationship to the institutional system. We review the factors that, according to the literature, influence the efficiency of self-regulation.

Causes and models of self-regulation

The model-based literature of self-regulation started by an article of **Leland [1979]**. Its starting point was the problem of adverse selection presented by *Akerlof* [1970], and it examined whether there was any improvement if the regulator or the industry defined a quality threshold.

The model itself was also based on the model of Akerlof, which was structured in the following way. Consumers value quality, hence better quality pushes the demand curve outwards. The quality of produced goods by certain companies evolves exogenously, and higher-quality firms also face higher costs. The model is about an experience good, thus consumers are not able to assess the quality of the good or service before the purchase. Therefore, they are willing to pay a price corresponding to average quality, that is the expected quality of the good in the market. This leads to adverse selection: it is not worth for producers creating the best quality to enter the market, despite the willingness of consumers – under complete information – to pay the costs of a better quality product.

In this framework, *Leland* [1979] assesses whether it is possible to improve efficiency if a certain quality threshold is introduced. This means that only those producers can sell their products on the market that exceed a critical value. The social value of the threshold is that due to an increase in average quality, producers

creating better quality goods return to the market; its social cost is that total quality exchanged on the market decreases. The welfare effect depends on how consumers evaluate better quality in comparison to greater quantity. The results show that it pays off to introduce such a threshold if consumers value quality highly in comparison to the cost of its production, and the elasticity of demand (with respect to quantity) is not too large.

The article analyses what quality standard will be defined by a self-regulatory organisation (SRO). Such an organisation – similarly to cartels – maximises industrial profits. The study of Leland does not address the inner workings of self-regulatory organisations: it simply assumes that they operate efficiently from the perspective of the collective interests of stakeholders. The study shows that if the unit cost function is strictly convex, and consumer demand for quality is linear or convex, then the self-regulatory organisation defines a higher than optimal quality threshold. The reason for this is that the self-regulatory organisation – similarly to other monopolies – tries to lower supply by all means at its disposal, and thereby generate monopoly profit.

Using simple tools, *Leland* [1979] also writes about the problem of moral hazard. He examines what happens when quality is endogenous. In this case, a public good problem arises. Since consumers cannot observe the quality of the product before purchase, the company investing into the quality of its product cannot access the total return on its investment, and thus, the investment will be lower than its socially optimal level. While this approach provides the idea for later models based on moral hazard, a precise modelling of moral hazard occurred only later, with the work of *Shapiro* [1986].

The study of **Shaked–Sutton [1981]** is another classic piece in the literature of self-regulation. It expands on *Leland's* [1979] model in many ways. On the one hand, it addresses consumer preferences pertaining to quality in more general terms: consumers are not only interested in general (expected) quality, but the distribution of the quality of those who work in the profession (for example, in health or legal counselling). On the other hand, it also models the labour market in detail, where the income of professional employees is determined endogenously. To this end, the authors use a certain general equilibrium model. The skills of potential workers are heterogeneous, and in equilibrium those chose, for example, the medical profession – as opposed to other professions –, who can provide better service than the quality threshold. Thus, the threshold defines the number of workers, that is, the size of profession, too.

Given their specific approach, the authors can also analyse some novel questions. They analyse all viable sizes of professions that are feasible in equilibrium. At the same time, they also examine the effect of the emergence of a new profession that provides lower standards than the original one. They find in the case of a single

profession – similarly to *Leland* [1979] – that the threshold maximising the income of professionals is higher than the socially optimal one, meaning that if the definition of quality threshold was left to the profession, there would be fewer lawyers or doctors working.

In the case of two professions they examine cases where a new profession can appear – for example, paralegals – that allows the entrance of lower quality service providers. In the model, the technical condition for this is that paralegals should earn more than in their alternative professions.

Two regulatory settings may explain the emergence of a new profession. First, a professional organisation can be freely established. Second, the old profession – lawyers, doctors – may define the quality requirements for the new one. This is not at all unrealistic: it happens often that the representatives of the highest quality profession decide about the quality standards applicable to "lower" level professions, for example, doctors define professional requirements that must be met by nurses.

If representatives of the new profession can decide about the quality requirements applicable to them, then the new profession may also set the quality threshold too high, thus state regulatory authorities may have an interest to intervene and to set the quality threshold at the socially optimal level. In such interventions the entrance of a new profession clearly increases welfare, thanks to the wider range of choice and the lower rents enjoyed by the original profession. If however the requirements applicable to the new profession are chosen by the old profession, and financial transfers are possible between the two groups, then the quality threshold of the new profession will not be optimal, and the representatives of the original profession will take further rents from the generated revenue.

Thus, overall, this more general model of *Shaked–Sutton* [1981] confirms *Leland's* [1979] conclusions, according to which a profession functioning as a monopoly sets too high quality threshold. An important finding is that the appearance of a competing profession may be beneficial in the case of independent professions. If, however, the representatives of the old profession decide about the requirements of the new profession, then this leads to an increase of rents for the old profession.

Shapiro's [1986] model is the first important model that interprets quality regulation as a moral hazard problem. Originally, the group of producers is homogeneous, and it is up to their members to decide what qualifications they should obtain and what quality products they create (high or low). For more qualified producers it costs less to create high quality products: higher qualifications and higher-quality products therefore complement each other. Another important feature of the moral hazard-based model is that the state is not able to directly regulate the quality of the product, only one of its inputs: the qualification of the service provider.

It is important that there is opportunity in the model to develop reputation. The type of products created by service providers can only be observed after a while:

consumers are not able to ascertain the quality of services provided by young service providers, but they decide about the use of services offered by providers in their second career phase based on the provider's reputation in the first phase.

Without government intervention two types of efficiency losses arise on the market. *1.* Due to the initial phase characterised by moral hazard, there is less incentive to produce higher quality, than in the case with complete information, which reduces average quality. *2.* In the initial phase the allocation of higher and lower quality products is not optimal: the higher quality products do not necessarily reach those consumers who value quality, since the products are indistinguishable prior to consumption. This also implies that in comparison to the full information scenario, asymmetric information harms the situation of those consumers who value quality, and their surplus gets transferred to other consumers.

The state can intervene into market processes in various ways. One option is licencing, which means that the performance of an activity is only permitted above a certain qualification; this is basically input regulation. In this way, low-quality service providers obtain higher qualification than they would otherwise do in the absence of intervention. In effect, the marginal cost of higher quality is reduced, and supply is increased. Licencing thus increases average quality and decreases type 1 sources of efficiency loss.

Shapiro [1986] shows that licencing only leads to an increase in welfare if the reputation mechanism is not too strong. The introduction of licensing, however, does not lead to improvement in the Pareto-sense: due to a reduced marginal cost of quality, consumers with a high valuation of quality are the winners of intervention, while those with a low valuation of quality become the losers.

The second option of government intervention is issuing certificates by which the state – already at the beginning of the career – certifies the qualification of a service provider, and thus consumers get information about the properties of the service provider already in the first phase. This provides opportunity for signalling: service providers can signal their qualifications and through this, indirectly, the quality of their service. If there is sufficiently strong correlation between the qualification and the quality, then this mechanism can fully re-establish the social optimum. In other cases it can happen that high quality service producers need extremely high incentives to reveal their type. This excessive signalling can even lead to welfare loss.

The article of *Shapiro* [1986] is significant because it is the first one to present how the quality regulation of inputs can help reduce moral hazard related to quality. An important innovative element of the article is an emphasis on the role of reputation. If the reputation mechanism is strong and efficient in a profession, then this may in itself be enough to do away with moral hazard. Imperfect reputation implies, though, that producers can get only a part of social return from investment into a higher quality, and hence investment is suboptimal. In these models this latter effect represents the rationale of regulatory or self-regulatory intervention.

In Shapiro's model the issue is the individual reputation of the given service providers, and it is a problem that this can only be observed after a while. The study demonstrates that the quality threshold is advantageous from the perspective of society, but it does not deal with the question whether the collective organisation of the industry enables the creation of efficient self-regulation. This latter can also be motivated if the industry possesses a certain type of collective reputation, which is the sum of individual reputations, the average quality of the industry. This is implicitly included in the article of *Shapiro* [1986]: the average quality of young service providers can be interpreted as the reputation of the industry. But handling industrial reputation separately makes the drivers of self-regulation more explicit: if industrial reputation is a public good, then it is perfectly conceivable, that the contribution of individual service providers, from the perspective of the industry, is too low, and the establishment of a self-regulatory organisation could alleviate this public good problem.

The **Gehrig–Jost [1995]** model follows exactly the same line of thought. In their model companies operate as local monopolies, and with some probability, after a while, consumers move to a district of another service provider. Consumers who have moved do not know the service quality in the new district, therefore they can only form their expectations based on the quality provided by their previous provider. This is meant by reputation of the industry in the model: in every district, new consumers build on their experiences with other service providers. The moving of consumers of course also implies that certain companies can enjoy only a part of their investment in reputation, and thus, the investment falls behind the optimal degree from the perspective of the industry. In the model, the number of sedentary (non-moving) consumers are the source of the reputation mechanism. This is the reason why profit maximizing self-regulation can improve the quality of the product.

The main question asked by *Gehrig–Jost* [1995] is: In what cases is it expedient to choose self-regulation instead of classical govermental quality and price regulation? An important innovation of the model is that it highlights: the advantage of self-regulation is that market actors possess more information than regulators, but its disadvantage is increased market power, which can lead to a deadweight loss. The analysis demonstrates that if regulators and companies are equally informed, then from the perspective of society it is more expedient to use classical price or quantity regulation. If, however, the information available to the regulator is overly noisy, then self-regulation securing optimal quality leads to greater social welfare.

The research of **Tirole [1996]** describes a general model of collective reputation by modelling the collective reputation of an organisation (or a profession). Collective reputation is the sum of individual reputations. Collective reputation becomes an interesting question if the reputation of individuals is not only influenced by their

own but also by their organisation's reputation. For example, if costumers conclude a contract with a representative (agent) of the industry, they cannot exactly check how many times this agent cheated in the past, but can know the general reputation of the industry, and with some probability can also find out if the given individual did not behave correctly in the past. Thus, individual and collective reputation simultaneously affect the expected payoffs of making business with a firm from the industry.

An important conclusion of the model is that it does not pay for individuals to behave correctly in companies with a bad reputation. The reason for this is that due to bad reputation, consumers are distrustful even toward those who were not caught as corrupt in the past. Therefore, members of these organisations can only get less profitable jobs even if they have never behaved corruptly. This may also lead to a situation that bad reputation prevails in such organisations where individuals from many generations work together. If a generation does not behave well, then in effect it is worth less to behave correctly for the next generation, thus the bad reputation of the organisation prevails.

While the article of *Tirole* [1996] does not directly address self-regulation, such an analysis of collective reputation demonstrates why self-regulation aimed at improving reputation might be important. His argument concerning the importance of reputation is particularly important for understanding the conditions under which self-regulatory organisations can function efficiently. Although, in subsequent works this dynamic question did not receive much attention, it still remains important.

The study of **DeMarzo–Fishman–Hagerty [2005]** examines more in-depth the issue that increased market power is the social cost of self-regulation. *Gehrig–Jost* [1995] also demonstrated this. The main innovation of the study is the consideration that for the efficient functioning of quality regulation, the regulator – be it the government or a self-regulating organisation – must perform costly investigations, and therefore, investigating every transaction cannot be efficient. For this reason the study is based on the Costly State Verification (CSV) framework proposed by *Townsend's* [1979] article.

DeMarzo et al.'s [2005] logic has been inspired by industries, such as the financial market, where consumers can only ascertain the expected return of their investment by means of costly assessments. In the model, the self-regulatory organisation clearly represents the interests of the industrial stakeholders and behaves as a monopoly in the control of service providers. This can be interpreted in a way that the self-regulatory organisation operates in the common ownership of industrial companies and its objective is not to maximize its own profit.

The model shows that service providers competing in prices can function as monopolies if the operation of industrial self-regulatory organisation endows the industry with monopoly power by regulation. Afterwards, the study examines the role of a government regulator as well. The authors show that in equilibrium the

government authority does not even perform any investigations, but the threat of investigation can push the industry into the direction of perfect competition.

The main features of the classical models of self-regulation discussed here is summarised in *Table 3.*

TABLE 3 • **The main features of the classical models of self-regulation**

Study	Approach	Type of regulation	Main innovation	Efficiency of self-regulation
Leland [1979]	adverse selection	quality threshold	first model of self-regulation	too high quality threshold
Shaked–Sutton [1981]	adverse selection	quality threshold	general equilibrium, more professions	too high quality threshold
Shapiro [1986]	individual moral hazard	input regulation: licensing and certificates	emergence of moral hazard	licensing can be effective, certificates may lead to too high investment
Gehrig–Jost [1995]	industrial reputation	quality regulation	emergence of industrial reputation, the cost and benefit of self-regulation in comparison to classical regulation	if the self-regulatory organisation is more informed than the governmental regulator, self-regulation might be efficient
DeMarzo et al. [2005]	costly controls	costly controls	modelling of market forces created by self-regulatory organisations, complementary nature of self-regulatory organisations and authorities	a self-regulatory organisation controlling quality leads to cartel prices; the inclusion of authorities have a positive effect

Institutions and the functioning of the regulator

Articles written before the 2000s do not address the incentives that a self-regulatory organisation faces. It is generally assumed that enterprises establish such an organisation if they need one, and this will automatically and efficiently maximizes the industry's aims. This, however – similarly to cartels – does not happen automatically in the case of self-regulatory organisations, since it might be in the interest of such an organisation to diverge from the collective interests of the industry.

Kranton [2003] investigates this issue and points out that in the case of experience goods and repeated games there might be a need for a certain market power which makes it worth for companies to build a reputation that is associated with high quality production. To uphold high quality, there might be a need to limit entry or reduce price competition. This phenomenon can justify the notion that self-regulatory organisations should not only deal with quality control, but to some extent should also limit competition. The author demonstrates that the guilds of the Middle Ages in Europe and in the Middle East as well as modern American professional associations also functioned this way: they defined quality requirements toward professionals, and at the same time, limited competition.

In the models presented in the previous section as well as in the article of *Kranton* [2003], there was an automatic assumption that the self-regulatory organisation, as a body established by the companies of the industry, will maximise total industry profits. This, however, is not necessarily true. The self-regulatory organisation, as an entity recognised by the state and responsible for the realisation of certain social goals, can also have another objective function. In the analyses of Javier Núñez, for instance, the objective of the self-regulatory organisations is the development of its own reputation (*Núñez* [2001] and [2007]). In the models the development of reputation indicates that the self-regulatory organisation functions efficiently and can investigate firms at a low cost. While it is not clear why such an organisation would follow exactly this objective function, the analyses provide important insights on how results can differ if the self-regulatory organisation does not proceed as an agent of the companies.

An important advantage of these analyses is that the examination of self-regulatory and classical regulatory authority relationships became richer than in the approach where the self-regulatory organisation maximises profit, and the authority maximises some weighted sum of profit and consumer surplus. If there is substantial discrepancy between the objective functions of the two regulatory organisations, questions arise whether the functioning of two types of regulatory organisations substitute or complement each other.

Núñez [2001] also examines a mixed regulatory environment where there is a self-regulatory organisation parallel to a governmental regulatory authority, which also oversees quality. Both the self-regulatory organisation and the governmental regulator can perform investigations. Three scenarios are possible if a company is caught producing at too low quality: 1. the self-regulatory organisation voluntarily discloses misconducts, 2. it is the government supervision that discloses them, or 3. they will not be disclosed. The presence of the governmental regulator, on the one hand, directly reduces the optimal number of misconducts, and on the other hand, the threat of government investigation can encourage the self-regulatory organisation to conduct investigations more frequently, because this improves quality, and decreases the likelihood that a governmental investigation will reveal fraud, which would worsen the reputation of the self-regulatory organisation. This effect only applies to the number of investigations, but not to the disclosure of misconduct.

Núñez [2007] operates only one self-regulatory organisation, and examines what the effect is on efficiency if the companies can bribe the self-regulatory organisation. In the model, this means that companies producing lower quality and being caught during investigations pay money to the regulator, so that the latter does not reveal the result of the investigation, and thereby the company does not have to suffer the loss of consumer trust or the high cost of external legal sanctions. The self-regulatory organisation accepts the corruption offer if the offered amount is higher than the value of reputation gained from disclosure.

The conclusion is that the possibility of corruption – in certain cases – may increase the probability of fraud and decrease the probability of investigations. At the same time, even a corrupted self-regulatory organisation can be better than if there is no self-regulation at all, because the rent from corruption represents some level of motivation for investigating, which reduces misconduct. The effect on welfare is not clear, though, for investigations are costly.

While in the model of Núñez, the objective function of the self-regulatory organisation appears rather arbitrary, these types of objective functions can be better understood if there are more self-regulatory organisations competing with each other; in these cases it is indeed those self-regulatory organisations that can obtain higher shares which can more efficiently investigate the companies belonging to them. *Caglio–Pescatori* [2013] had built such a model that explicitly examined the functioning of competing self-regulatory organisations.

Caglio–Pescatori's [2013] model starts from and earlier model, that of *DeMarzo et al.* [2005] for securities which relies on the costly state verification framework. Their study focuses on the question that if there are multiple self-regulatory organisations present in an industry, then how competition between self-regulatory organisations affect 1. the number of investigations and compliance with contracts, and through this, 2. the broker-investor relationship as well as the participation of the investors.

The authors investigate the securities market of the United States, where there is a three-tier regulation in force. The US Securities and Exchange Commission (SEC) regulates the markets and the self-regulatory organisations (the stock exchanges) too. These stock exchanges oversee the broker-investor relationships, where brokers and broker companies are members of self-regulatory organisations. The supervision rights of self-regulatory organisations are regulated by laws. The self-regulatory organisations compete with each other for higher turnover, and therefore, it is questionable whether the competition reduces the likelihood of investigating.

Thus, the model analyses profit maximising self-regulatory organisations and stock exchanges in an explicit way. The main conclusion is that this type of competition hurts welfare, because stock exchanges gain market share with a reduced intensity of investigations (*race to the bottom*). According to the model, this negative situation would not unfold if one "monopolistic" self-regulatory organisation operated in the industry. The results did not change either, if the assumption on the heterogeneity of investors was changed, or expert investors with strategic behaviour were assumed.

Reiffen–Robe [2011] uses a similar model and examines what the difference is between the behaviour of profit-oriented self-regulatory organisations that pursue their own interests and others that seek the maximisation of total industry profits (that is, when the self-regulatory organisation is the joint property of the stakehold-

ers of the industry). The self-regulatory organisation in joint property maximises the income of agents, while the profit-oriented self-regulatory organisation maximize the value of its shares. Since the profit-oriented self-regulatory organisation is less interested in the profit of agents, it imposes higher fines and conducts investigations more frequently to reveal misconducts. For profit-oriented self-regulatory organisations – due to more frequent controls – the introduction of innovations that reduce the unit-cost of controls also pays off better. The result is based on the logic that while a jointly-owned self-regulatory organisation will choose a minimal control level in line the participation constraint of consumers, a profit-oriented self-regulatory organisation will choose a maximal control level which is still in line with consumer participation.

The study also examines the effect of parallel functioning of the governmental regulation and the self-regulatory organisation. We have seen that the work of *De-Marzo et al.* [2005] pointed out that the frequency of investigations by a joint-property self-regulatory organisation is increased by the threat of government controls. Nonetheless, *Reiffen–Robe* [2011] draw attention to the fact that this threat does not matter for profit-oriented self-regulatory organisations, because the likelihood of them being controlled is already high enough in the absence of threats.

One can understand the functioning of governmental and industrial self-regulation better if one conceives regulation not as a one-shot decision implemented at a particular moment, but more realistically, as a process in itself. While the decision maker can lay down general rules, it is the authorities or self-regulatory organisations which have to work out their detailed implementation. Since this is about residual rule-making powers, according to *Grajzl–Murrell* [2007] a natural framework is represented by the theory of incomplete contracts elaborated in a study by *Grossman–Hart* [1986].

In the framework of **Grajzl–Murrell's [2007]** model one can endogenously examine the relationship of the governmental regulator and the self-regulatory organisation. The trade-off between the benefits and costs of self-regulation unfold similarly to the models based on incentives. The benefit of self-regulation – in contrast to central regulation – is that it is amendable with lower cost, and hence, is more flexible due to better informed stakeholders of the industry. The cost of self-regulation, on the other hand, is that industry stakeholders attach more weight to their own interests than what would be socially optimal.

The three main parameters of the model are uncertainty, the divergence between the interests of the consumers and the producers (polarisation), and the populism of the government which is represented by the weight of consumers in governmental decisions. The main results are the following. On the one hand, if uncertainty is higher, then self-regulation is more likely to be optimal from a social point of view, because in this case, flexibility has a higher value. The higher discrepancy between

the interests of consumers and producers calls, however, for central regulation, since in this case, the biases associated with self-regulation are accompanied by too high social costs. Finally, government regulation is favoured if the government is more populist, because the selfishness of producers is evened out by the fact that governmental regulation would attach too great a weight to the interests of consumers.

The last point also makes it clear that the regulatory mechanism chosen by the government does not necessarily correspond to the socially optimal one. While increased uncertainty or higher polarisation affects likewise the choice made by the government, its populism increases the probability that central regulation will be created.

The authors demonstrate the empirical validity of the model by two case studies. The first one examines the difference between the Anglo-Saxon and the continental system. A number of studies confirm that self-regulation is more frequent in the Anglo-Saxon legal system.

The authors argue that in the centralised continental system the cost of subsequently changing regulations is higher both in the case of central regulation and in self-regulation. The benefit of self-regulation (higher flexibility) is, therefore, lower in the continental legal system, since given the high costs there would only be small changes anyway. On the other hand, the cost of self-regulation – the biases of self-regulators – are presumably similar in the two legal systems. Consequently, self-regulation is a more attractive opportunity in countries with Anglo-Saxon legal systems.

The authors also analyse the results with multinomial probit models, using the case of alcohol regulation. Their results confirm that there is a higher prevalence of self-regulation in countries with Anglo-Saxon legal systems than in continental countries of similar size and level of development.

The only exception in the analysis is the block of former socialist countries. Here the rate of self-regulation is particularly low, especially if their continental legal system is also taken into account. The authors explain this finding by claiming that there were strongly populist governments in power during the transition period, and inexperience in self-regulation also implied that the information advantage of self-regulation would not have been too strong either.

The other empirical example is the comparison of the progressive era of the United States and the *New Deal*. In the progressive era at the end of 19th century, the role of centralised regulation was significant, but self-regulatory institutions strengthened with the *New Deal.* The authors argue, this is explained by two factors. On the one hand, the progressive era was fundamentally characterised by stability, but after the Great Depression, uncertainty had strengthened. On the other hand, the perceived conflict between corporations and consumers was greater in the progressive era than in the *New Deal*, when exit from the Depression was a common goal. *Table 4* summarises the studies presented in this section.

TABLE 4 • **The self-regulatory and classical models in the context of institutional system**

Study	Approach	The objective function of the regulator	Main result
Kranton [2003]	dynamic game	total profit of the industry	In order to achieve high quality equilibrium, restricted competition might be needed
Núñez [2001]	dynamic game	reputation of the self-regulatory organisation	The regulator investigates too rarely and does not always disclose the results of investigations to the public; it helps if there is also a regulatory authority running in parallel
Núñez [2007]	dynamic game, opportunity for corruption	reputation of the self-regulatory organisation	If the company can corrupt the self-regulatory organisation that can reduce the probability of investigations, but a corrupt self-regulatory organisation is still better than no self-regulatory organisation at all.
Caglio–Pescatori [2013]	costly controls	profit of the self-regulatory organisation	The competition of more profit-oriented self-regulatory organisations leads to too few investigations in comparison to monopolistic self-regulatory organisations
Reiffen–Robe [2011]	costly controls	profit of the self-regulatory organisation or total profit of the industry	The frequency of investigations performed by a profit-oriented self-regulatory organisation are closer to optimal
Grajzl–Murrell [2007]	property rights theory	total profit of the industry	Higher uncertainty, lower polarisation of interests, and stronger populism of the government are in the favour of a self-regulatory organisation, in contrast to the governmental regulator

Factors influencing the efficiency of self-regulation

In this section, based on the presented literature, we summarise the factors that influence the efficiency of self-regulation.

Information asymmetry between the stakeholders of the industry and the regulatory authority • Policy materials on self-regulation primarily identify information advantage for the industry as the most important advantage of self-regulation (for example, *OFT* [2009]). Interestingly, information advantage is attributed an explicit role only in some of the articles dealing with the issue. This argument formally appears in the model of *Gehrig–Jost* [1995], where the self-regulatory organisation precisely monitors the companies' cost function, but the regulatory authority knows only the distribution thereof. The model demonstrates that when information is asymmetric, self-regulation can result in higher welfare than classical regulation.

In the model of *Grajzl-Murrel* [2007], the informational advantage of self-regulatory organisations arises in a property rights theory framework. Here, information advantage means that after the development of general regulations, a self-regulatory organisation can fine tune the regulation – in accordance with the changes in the environment – with lower expenses. The more fine-tuning is needed, that is, the more uncertainties exist concerning the exact parameters of the regulation during the creation of the original law, the higher the information advantage for the self-regulatory organisation.

Market power • The potential increase of corporate market power is often considered as the most important disadvantage of self-regulation. This problem can take two forms. One of the dangers can be that the organisation established for the cooperation of companies can facilitate collusion in terms of pricing, be it in the form of open cartels or tacit collusion. The micromodels examined in the chapter however grasp this phenomenon in a sense that if companies can jointly decide about a particular dimension of the product, then this decision in itself – without collusion on prices – significantly increases the market power of the companies.

This question received a lot of attention in the article of *Leland* [1979]. Leland demonstrates that a self-regulatory organisation maximizes its profits in a way that it stipulates a higher than socially optimal quality threshold. The same result is provided by a more general model of *Shaked–Sutton* [1981]. *Gehrig–Jost* [1995] also emphasises that the social cost of self-regulation is the increase of market power.

The model of *DeMarzo et al.* [2005] addresses mostly the problem whether it is sufficient for the development of a monopoly if industrial stakeholders, who exist within the framework of a single self-regulatory organisation, decide about quality – that is, they decide about the frequency of investigations for financial service providers included in the model.

Kranton's [2003] study approaches the problem from another perspective and points out exactly that a high quality equilibrium cannot even arise if the self-regulatory organisation founded on voluntary cooperation is not stable, and if the companies do not have adequate market power.

Andersson–Skogh [2003] reach a similar conclusion as well, and they draw some important policy conclusions. They argue that in the case of strongly experience goods such as, for example, insurance markets, the judicial enforcement of contracts can be extremely costly. Therefore, authorities do not necessarily have to step up against self-regulatory organisations even in cases when they significantly reduce competition; often it is enough to ease entry.

The relationship of the self-regulatory organisation and the governmental regulator • Most of the studies dealing with self-regulation in general regard the self-regulatory organisation and the governmental regulator as substitutes, that is, they examine under what condition it is optimal to replace one with the other. More recent research however often pose the question: To what extent is the parallel functioning of two regulators desirable? Whether, in case of parallel functioning, the advantages of both regulators can prevail, that is, the better information of industrial stakeholders can be harnessed without the increase of market power, or quite contrarily, it is the disadvantages of two solutions that prevail?

According to *DeMarzo et al.* [2005], the two types of regulators complement each other. Their model shows that in the financial markets, the threat of control by the central regulator increases the investigation activity of a jointly-owned self-regulatory

organisation, because in this way, lower operation costs must be paid by the consumer. Similar result was reached in the model of *DeMarzo et al.* [2005], where the parallel functioning of regulatory authority motivates the self-regulatory organisation concerned about its reputation to perform investigations more frequently. *Reiffen–Robe* [2011] shows that this effect does not manifest itself in the case of profit-oriented self-regulatory organisations, as their frequency of investigations is already too high.

The number and type of self-regulatory organisations • It is evident from the literature that the number, internal functioning and objective function of self-regulatory organisations highly influences the efficiency of self-regulation.

Shaked–Sutton [1981] study first what effect the appearance of two "professions" has. According to the results of the study it is important to distinguish between the case when the second profession decides about its own quality threshold, and the case when the first profession determines the quality threshold for the new profession as well. In the first case, the new profession may define too high a quality threshold, while in the latter case, the quality threshold can be too low because of rent-maximisation by the original profession.

In the models of *Núñez* [2001] and [2007], the goal of a self-regulatory organisation is the improvement of its own reputation. To this end, the self-regulatory organisation may perform too few investigations, and might often not disclose the result of the investigation so as to protect the reputation of the organisation.

Reiffen–Robe [2011] compared the functioning of profit-oriented self-regulatory organisations and the ones in the joint property of service providers. The profit-oriented self-regulatory organisation investigates more frequently and introduces more innovations than the jointly-owned self-regulatory organisation, and therefore, is close to the social optimum. However, according to the results of *Caglio–Pescatori* [2012], the competition of profit-oriented self-regulatory organisations reduces the number of investigations.

SUMMARY

This paper presents a long line of regulatory alternatives, which go beyond straightforward government regulation. It demonstrates that the great variety of real-life market situations and the numerous available regulatory techniques have resulted in all kinds of regulatory solutions, most of which consist of some combination of various regulatory regimes. The discussion was restricted to various observed forms and variants of self-regulation and co-regulation especially the most prevalent ones, and those that incorporate some elements of other regulatory techniques such as the use of some market mechanisms, information provision agreements, etc.

Contrasting the use of each type of regulation against the legal systems, we saw that legislation based on the continental legal system was characterised more by

centralised law-making and central regulation (case law in the Anglo-Saxon legal system entailed more uncertainty), and the Anglo-Saxon legal system provided more opportunities for the development of decentralised regulatory forms. Besides governmental regulation, the widespread use of self- and co-regulation formed an integral part in the decentralised (also called as "soft law") framework of Anglo-Saxon legal systems. These regulatory forms later served as examples for nations all over the world. At the same time, in the Anglo-Saxon countries, one can observe some temporal fluctuations in the demand for regulation as well as in the relationship between government regulation and self-regulation.

A more substantial review of the quality of regulations enabled a more in-depth analysis of regulations in terms of transparency, consultation mechanisms, institutional solutions, monitoring and progress checks. The process, which started in the '70s in the United States, have increasingly spread to other countries since the '80s, then use of impact assessment has been articulated by OECD recommendations, and they have become incorporated into the practice of the European Union as well.

By examining the various practices of self-regulation, we can establish that self-regulation often takes place in order to avoid governmental regulation and after significant shock events. In larger, more heterogeneous sectors, self-regulation is harder to apply, as it is easier for companies to evade it. Due to the costs of self-regulation, often external – economic, social, regulatory – incentives were needed to launch a regulation. The analysed cases of co-regulation suggest that regulation can be socially beneficial even if regulation defines the aims, but not the steps leading to it. For traditional regulations it is required that the aims should be clear, the effect of used means should be known, and sufficient resources should be available for monitoring and enforcement. If, however, the problem to be regulated is overly complex, and its details can hardly be known, or the objectives of the regulation are too diverse, co-regulation or self-regulation might be an appropriate choice. The feasibility of finally selected methods should not be considered in themselves, but they should be set against other viable alternatives.

The acceptance of self-regulation has especially weakened as a result of the 2008 crisis. Stiglitz cites Greenspan, who waivered in his faith in the opportunity of self-regulation and the rationalisation of market behaviour (*Stiglitz* [2009]). Nonetheless, others contend that the crisis provides an opportunity for the strengthening of self-regulation, especially in that sector which raises the most objections, and has triggered the most direct regulatory interventions, namely: the financial sector (*Omarova* [2011], *Schwartz* [2011]). According to the recommendations, there are two things that self-regulation can solve better than governmental regulation. One of them is the timely acquisition of market information, and another is the recognition and management of risks. According to Omarova, self-regulation, or specifically, co-regulation are the most appropriate methods to mitigate systemic risks. To this end, mutual self-insurance should be made compulsory for companies in

the financial sector, so as to promote a sense of "common identity" between them. This system could fulfil a missing regulatory function in a complex, innovative and quickly changing industry, in accordance with – and as a complement to – existing governmental regulations. However, the main current of events following the crisis has demonstrably led to the prominence of governmental regulatory tasks, besides self-regulation, in certain areas (auditing, credit rating).

The diversity of motivations of self-regulation and the heterogeneity of institutional arrangements have led to the elaboration of various theoretical frameworks. The literature has pointed out that self-regulation can primarily function in those areas where the interests of corporations and society coincide: in this way self-regulation is not efficient in dealing with significant market power, but can help resolve asymmetric information problems. The literature investigating self-regulation demonstrates a fundamental conversion, namely, that self-regulation involves information advantage in comparison to classical regulation, but at the same time, it also gives an opportunity for companies to function in a way that may result in a deadweight loss.

The theoretical literature also makes it clear that the aim of self-regulatory organisations often diverges from those of the industry overall, and this is heavily influenced by organisational functioning, namely, by the roles companies play in the organisation, whether they are profit-oriented, and what role reputation-building takes in their aims. The literature has also examined the question when competition is beneficial between self-regulatory organisations, and when self-regulatory organisations and classical regulatory authorities complement or substitute each other.

REFERENCES

ACCC [2011]: Guidelines for developing effective voluntary industry codes of conduct. Australian Competition and Consumer Commission, http://transition.accc.gov.au/content/index.phtml/itemId/658186.

ACMA [2010]: Optimal conditions for effective self- and co-regulatory arrangements. Occasional Paper. Australian Communications and Media Authority.

Akerlof, G. [1970]: The market for "lemons": Quality Uncertainty and the Market Mechanism, Quaterly Journal of Economics, Vol. 84, No. 3, pp. 488–500.

Andersson, F.–Skogh, G. [2003]: Quality, self-regulation, and competition: the case of insurance. Insurance: Mathematics and Economics, Vol. 32, No. 2, pp. 267–280.

Bargeron, L.–Lehn, K.–Zutter, C. [2209]: Sarbanes-Oxley and Corporate Risk Taking. Journal of Accounting and Economics, Vol. 49, No. 1–2, pp. 34–52.

Bartle, I.–Vass, P. [2005]: Self-regulation and the regulatory state – a survey of policy and practice. CRI Research Report No. 17.

Becker, G. S. [1983]: A Theory of Competition Among Pressure Groups for Political Influence. The Quarterly Journal of Economics, Vol. 98, No. 3, pp. 371–400.

Brau, R.–Carraro, C. [2011]: The design of voluntary agreements in oligopolistic markets, Journal of Regulatory Economics, Vol. 39, No. 2, pp.111-142.
BRE [2011*a*]: One-in, One-out: Statement of New Regulation. HM Government.
BRE [2011*b*]: Sunsetting Regulations: Guidance. HM Government.
BRTF [1999]: Self-regulation. Interim Report. Better Regulation Task Force.
BRTF [2000]: Alternatives to State Regulation. Better Regulation Task Force.
BRTF [2003]: Imaginative hinking for Better Regulation. Better Regulation Task Force.
BRTF [2005]: Routes to Better Regulation. A guide to alternatives to classic regulation. Better Regulation Task Force.
Caglio, C.–Pescatori, A. [2013]: Competition among Exchanges and Enforcement Policy. IMF Working Paper, WP/13/37. http://www.imf.org/external/pubs/cat/longres.aspx?sk=40296.
Calcott, P. [2010]: Mandated self-regulation: the danger of cosmetic compliance, Journal of Regulatory Economics, Vol. 38, No. 2, pp. 167–179.
Coglianese, C.–Mendelson, E. [2010]: Meta-regulation and self-regulation. In: *Baldwin, R.–Cave, M.–Lodge, M.* (ed.): The Oxford Handbook of Regulation. Oxford University Press.
Cunningham, L. A. [2006]: Too Big to Fail: Moral Hazard in Auditing and the Need to Restructure the Industry Before it Unravels. Columbia Law Review, Vol. 106. Boston College Law School Research Paper, No. 108. http://ssrn.com/abstract=928482.
DeMarzo, P. M.–Fishman, M. J.–Hagerty, K. M. [2005]: Self-Regulation and Government Oversight. Review of Economic Studies, Vol. 72, No. 3, pp. 687–706.
Dodd–Frank… [2010]: Dodd–Frank Wall Street Reform and Consumer Protection Act. Public Law 111–203–July 21. 124 Stat. 1376. http://goo.gl/Lawh.
Dolan, P.–Hallsworth, M.–Halpern, D.–King, D.–Vlaev, I. [2010]: MINDSPACE: Influencing behaviour through public policy. Cabinet Office, Institute for Government.
Dyck, A.–Morse, A.–Zingales, L. [2010]: Who Blows the Whistle on Corporate Fraud? Journal of Finance, Vol. 65, No. 6, pp. 2213–2253.
EC [2010]: Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions. Smart Regulation in the European Union. COM(2010) 543 final, Brussels, 8.October 2010.
EC [2011*a*]: Proposal for the Directive of the European Parliament and of the Council amending Directive 2009/65/EC on the coordination of laws, regulations, and administrative provisions relating to undertakings of collective investment in transferable securities (UCITS) and Directive 2011/61/EU on Alternative Investment Funds Managers in respect of the excessive reliance on credit ratings. COM(2011) 746 final, Brussels, 15 November 2011.
EC [2011*b*]: Proposal for a regulation of the European Parliament and the Council amending Regulations (EC) No 1060/2009/EK on credit rating agencies. COM(2011) 747 final, Brussels, 15 November 2011.
EC [2011*c*]: Proposal for a directive of the European Parliament and the Council amending Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts. COM(2011) 778 final.
EC [2011*d*]: Proposal for a regulation of the European Parliament and the Council on specific requirements regarding statutory audit of public-interest entities. COM(2011) 779 final, Brussels, 30 November 2011.

Edwards, F. R. [2004]: U.S. Corporate Governance: What Went Wrong and Can It Be Fixed? In: *Borio, C.–Hunter, W. C.–Kaufman, G. G.–Tsatsaronis, K.* (eds.): Market Discipline Across Countries and Industries. MIT Press, pp. 237–255.

EESC [2005]: The Current State of Co-Regulation and Self-Regulation in the Single Market. European Economic and Social Committee, Brussels.

EPC [2006]: Directive 2006/43/EC of the European Parliament and of the Council of 17 May 2006 on statutory audits of annual accounts and consolidated accounts, amending Council Directives 78/660/EEC and 83/349/EEC and repealing Council Directive 84/253/EEC (Text with EEA relevance) (OJ L 157., 9 June, p. 87).

EPC [2009]: Regulation (EC) No 1060/2009 of the European Parliament and of the Council of 16 September 2009 on credit rating agencies. OJ L 302. 17 November 2009.

EPC [2011]: Regulation (EC) No 513/2011 of the European Parliament and of the Council on the modification of regulation (EC) No 1060/2009. OJ L 145/30. 31. May 31. 2011.

Fleckinger, P.–Glachant, M. [2011]: Negotiating a voluntary agreement when firms self-regulate. Journal of Environmental Economics and Management, Vol. 62, No. 1, pp. 41–52.

GAO [2003]: Public Accounting Firms. Mandated Study on Consolidation and Competition. United States General Accounting Office Report to the Senate Committee on Banking, Housing, and Urban Affairs and the House Committee on Financial Services. GAO-03-864. http://www.gao.gov/new.items/d03864.pdf.

Gehrig, T.–Jost, P. [1995]: Quacks, Lemons, and Self Regulation: a Welfare Analysis. Journal of Regulatory Economics, Vol. 7, No. 3, pp. 309–325.

Glachant, M. [2005]: Voluntary agreements under endogenous legislative threats and imperfect enforcement. Ecole des Mines de Paris, manuscript.

Glachant, M. [2007]: Non-binding voluntary agreements. Journal of Environmental Economics and Management, Vol. 54, No. 1, pp. 32–48.

Grajzl, P.–Murrell, P. [2007]: Allocating Lawmaking Powers: Self-Regulation vs Government Regulation. Journal of Comparative Economics, Vol. 35, No. 3, pp. 520–545.

Green Paper [2010]: Green Paper. Auditing policy: the lessons of the crisis. Brussels, 13 October 2010. COM(2010) 561 final.

Grossman, S.–Hart, O. [1986]: The costs and benefits of ownership: A theory of vertical and lateral integration. Journal of Political Economy, Vol. 94, No. 4, pp. 691–719.

Hepburn, G. [2009]: Alternatives to traditional regulation. Report prepared for the OECD Regulatory Policy Division.

Hoogen, T. van den–Nowak, T. [2009]: The emergence and use of self-regulation in the European decision-making process: does it make a difference? In: *Hertogh, M.–Westerman, P.* (eds.): Self-regulation and the future of the regulatory state. University of Groningen, Groningen Centre for Law and Governance.

House of Lords [2011]: Auditors: Market concentration and their role. Vol. I. Report. Select Committee on Economic Affairs, 2nd Report of Session 2010–11, HL Paper 119–I, http://www.publications.parliament.uk/pa/ld201011/ldselect/ldeconaf/119/119.pdf.

Hu, S. [2011]: Convergence of Audit and Credit Rating Practices: Going Concern Ratings. International Journal of Disclosure and Governance, Vol. 8, No. 4, pp. 323–338.

Interinstitutional Agreement… [2003]: Interinstitutional Agreement on better lawmaking. European Parliament, Council, Commission (2003/C 321/01).

Kiss, F. L. [2008]: Bevezetés a szabályozás gazdaságtanába [Introduction into regulatory economics]. In: *Valentiny, P.–Kiss F, L.* (eds.): Verseny és szabályozás, 2007 [Competition and regulation, 2007]. MTA KTI, Budapest, pp. 11–95.

Kiss, F.–Major, I.–Valentiny, P. [2000]: Információgazdaság és piacszabályozás. [Information economy and regulation] Akadémiai Kiadó, Budapest.

Kleiner, M. M. [2006]: Licensing Occupations: Ensuring Quality or Restricting Competition? Upjohn University Press, Kalamazoo, MI.

Kranton, R. E. [2003]: Competition and the Incentive to Produce High Quality, Economica, Vol. 70, No. 279, pp. 385–404.

La Porta, R.–Lopez-de-Silanes, F.–Shleifer, A. [2008]: The Economic Consequences of Legal Origins. Journal of Economic Literature, Vol. 46, No. 2, pp. 285–332.

Lee, C. [2005]: Legal traditions and competition policy. The Quarterly Review of Economics and Finance, Vol. 45, No. 2–3, pp. 236–257.

Leland, H. E. [1979]: Quacks, Lemons, and Licensing: A Theory of Minimum Quality Standards. Journal of Political Economy, Vol. 87, No. 6, pp. 1328–1346.

Lyon, T. P.–Maxwell J. W. [2003]: Self-regulation, taxation and public voluntary environmental agreements. Journal of Public Economics, Vol. 87, No. 7–8, pp. 1453–1486.

Lyon, T. P.–Maxwell J. W. [2011]: Self-Regulation and Negotiated Agreements: Complements or Substitutes? EAERE Conference paper, 18th Annual Conference, Rome.

Mandelkern Group [2001]: Mandelkern Group on Better Regulation. Final Report.

Maxwell, J. W.–Lyon, T. P.–Hackett, S. C. [2000]: Self-Regulation and Social Welfare: The Political Economy of Corporate Environmentalism. Journal of Law and Economics, Vol. 43, No. 2, pp. 583–617.

Mulligan, C. M. [2009]: From AAA to F: How the Credit Rating Agencies Failed America and What Can Be Done to Protect Investors. Boston College Law Review, Vol. 50, No. 4, pp. 1275–1305.

Núñez, J. [2001]: A model of self regulation. Economics Letters, Vol. 74, No. 1, pp. 91–97.

Núñez, J. [2007]: Can Self Regulation Work? A Story of Corruption, Impunity and Cover-Up. Journal of Regulatory Economics, Vol. 31, No. 2, pp. 209–233.

OECD [1997*a*]: The OECD Report on Regulatory Reform: Synthesis Report. OECD, Paris.

OECD [1997*b*]: Regulatory impact analysis: best practices in oecd countries. OECD, Paris.

OECD [1999]: Voluntary approaches for environmental policy in OECD countries. OECD, Paris.

OECD [2001]: Regulatory Impact Analysis: Efficiency, Accountability, and Transparency. OECD, Paris.

OECD [2004]: Ex post evaluation of regulatory tools and institutions. OECD, Paris.

OECD [2009a]: Alternatives to traditional regulation. OECD, Paris.

OECD [2009*b*]: Indicators of regulatory management systems. OECD, Paris.

OECD [2010*a*]: Reducing the Risk of Policy Failure: Challenges for Regulatory Compliance. OECD, Paris.

OECD [2010*b*]: Competition and Credit Rating Agencies. DAF/COMP[2010)29. http://www.oecd.org/dataoecd/28/51/46825342.pdf

OECD [2012]: Recommendation of the Council of the OECD on Regulatory Policy and Governance. OECD, Paris.

OFT [2009]: The economics of self-regulation in solving consumer quality issues. Office of Fair Trading.

OFT [2010]: What does Behavioural Economics mean for Competition Policy? Office of Fair Trading.

OFT [2011]: Statutory audit. Market investigation reference to the Competition Commission of the supply of statutory audit services to large companies in the UK. OFT1357MIR. http://www.oft.gov.uk/shared_oft/markets-work/oft1357MIR

Ogus, A.–Carbonara, E. [2011]: Self-regulation. In: *Parisi, F.* (eds.): Production of Legal Rules. Edward Elgar, pp. 228–252.

Omarova, S. T. [2011]: Wall Street as Community of Fate: Toward Financial Industry Self-Regulation. University of Pennsylvania Law Review, Vol. 159, pp. 411–492.

PCAOB [2010]: Report on Observations of PCAOB Inspectors Related to Audit Risk Areas Affected by the Economic Crisis. PCAOB Release, No. 2010-006. 29 September 2010. http://pcaobus.org/Inspections/Documents/4010_Report_Economic_Crisis.pdf.

PCAOB [2011*a*]: Report on 2010 Inspection of Deloitte & Touche LLP (Headquartered in New York City, New York) Issued by the Public Company Accounting Oversight Board, 7 December 2011. http://pcaobus.org/Inspections/Reports/Documents/2011_Deloitte.pdf.

PCAOB [2011*b*]: Report on 2010 Inspection of Ernst & Young LLP (Headquartered in New York City, New York) Issued by the Public Company Accounting Oversight Board, 30 November 2011. http://pcaobus.org/Inspections/Reports/Documents/2011_Ernst_Young_LLP_US.pdf.

PCAOB [2011*c*]: Report on 2010 Inspection of KPMG LLP (Headquartered in New York City, New York) Issued by the Public Company Accounting Oversight Board, 8 November 2011. http://pcaobus.org/Inspections/Reports/Documents/2011_KPMG_LLP_US.pdf.

PCAOB [2011*d*]: Report on 2010 Inspection of PricewaterhouseCoopers LLP (Headquartered in New York City, New York) Issued by the Public Company Accounting Oversight Board, 8 November 2011. http://pcaobus.org/Inspections/Reports/Documents/2011_PricewaterhouseCoopers_LLP.pdf.

Petit, N.–Neyrinck, N. [2011]: Credit Rating Agencies and Competition Law. Competition Policy International, Antitrust Chronicle, Vol. 8. 30. August 2011.

Powell, M.–Czapracka, K. [2011]: Recent EU Antitrust Investigations into Financial Services – What Is the Scope for Antitrust Intervention? Competition Policy International, Antitrust Chronicle, Vol. 7. 28. July 2011.

Pritchard, A. C.–Puri, P. [2006]: The Regulation of Public Auditing in Canada and the United States: Self-Regulation or Government Regulation? Fraser Institute Digital Publication, http://www.fraserinstitute.org/research-news/display.aspx?id=13534.

Reiffen, D.–Robe, M. [2011]: Demutualization and Customer Protection at Self-Regulatory Financial Exchanges. Journal of Future Markets, Vol. 31, No. 2, pp. 126–164.

Roe, M. J. [2004]: The Inevitable Instability of American Corporate Governance. Harvard Law and Economics Discussion Paper, No. 493. http://ssrn.com/abstract=615561.

Romano, R. [2004]: The Sarbanes-Oxley Act and the Making of Quack Corporate Governance. Yale Law School, Center for Law, Economics and Public Policy, Research Paper, No. 297. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=596101.

Scarpa, C. [1999]: The Theory of Quality Regulation and Self-Regulation, In: *Bortolotti, B.–Fiorentini, G.* (eds.): Organized Interests and Self-Regulation: An Economic Approach. Oxford University Press, pp. 236–260.

Schwartz, S. L. [2011]: Financial Industry Self-Regulation: Aspiration and Reality. University of Pennsylvania Law Review, Vol. 159, pp. 293–302.

SEC [2011]: 2011 Summary Report of Commission Staff's Examinations of Each Nationally Recognized Statistical Rating Organization. http://goo.gl/j3Oh6.

Sen, M. [2011]: Non-State Regulatory Regimes. Understanding Institutional Transformation. Springer.

Shaked, A.–Sutton, J. [1981]: The Self Regulating Profession. Review of Economic Studies, Vol. 48, No. 2, pp. 217–234.

Shapiro, C. [1986]: Investment, Moral Hazard, and Occupational Licensing, Review of Economic Studies, Vol. 53, No. 5, pp. 843–862.

Spence, M. [1975]: Monopoly, Quality and Regulation, Bell Journal of Economics, Vol. 6, No. 2, pp. 417–429.

Staff Working Paper [2011]: Commission Staff Working Paper. Impact Assessment. Accompanying the document Proposal for a Directive of the European Parliament and of the Council amending Directive 2006/43/EC on statutory audits of annual accounts and consolidated accounts; Proposal for a Regulation of the European Parliament and of the Council on specific requirements regarding statutory audit of public-interest entities. SEC (2011) 1384 final, Brussels, 30 November 2011. http://ec.europa.eu/internal_market/auditing/docs/reform/impact_assesment_en.pdf.

Stiglitz, J. [2009]: Regulation and Failure. In: Moss, D.–Cisternino, J. (eds.): New Perspectives on Regulation. The Tobin Project, Cambridge, MA.

Stoltenberg, C.–Lacey, K. A.–Crutchfield, G. B.–Cuthbert, M. [2005]: A Comparative Analysis of Post-Sarbanes-Oxley Corporate Governance Developments in the US and European Union: The Impact of Tensions Created by Extraterritorial Application of Section 404. The American Journal of Comparative Law, Vol. 53, No. 2, pp. 457–491.

Tirole, J. [1996]: A Theory of Collective Reputations (with Applications to the Persistence of Corruption and to Firm Quality). Review of Economic Studies, Vol. 63, No. 1, pp. 1–22.

TIS [2000]: Industry Self-Regulation in Consumer Markets. Report prepared by the Taskforce on Industry Self-regulation. Commonwealth of Australia.

Townsend, R. [1979]: Optimal Contracts and Competitive Markets with Costly State Verification. Journal of Economic Theory, Vol. 21, No. 2, pp. 265–293.

Valentiny, Pál [2008]: Hogyan mérik az ágazati szabályozó szervezetek hatékonyságát? [How is the efficiency of regulatory authorities measured?] Közgazdasági Szemle, 55. évf. 10. sz, pp. 891–906.

Valentiny, P. [2012]: Válságban a verseny – válságban a verseny? [Competition in crisis – is competititon in crisis?] In: *Valentiny, P.–Kiss, F. L.–Nagy, Cs. I.* (eds.): Verseny és szabályozás, 2011. [Competition and regulation 2011]. MTA KRTK KTI, Budapest, pp. 102–125.

White Paper [2001]: European governance. A white paper. COM(2001) 428 final.

White, L. J. [2012]: The Credit Rating Agencies: How Did We Get Here? Where Should We Go? Competition Policy International, Antitrust Chronicle, Vol. 4. 17 April 2012.

Zhang, I. X. [2005]: Economic Consequences of the Sarbanes-Oxley Act of 2002. AEI-Brookings Joint Center for Regulatory Studies, Related Publications 05-07. http://regulation2point0.org/wp-content/uploads/downloads/2010/04/phpEG.pdf.